

Appl. No. 10/748,315
Amdt. Dated May 12, 2006
Reply to Office Action of Feb. 22, 2006

REMARKS

Applicants submit that all claims 1-17 remain unchanged as previously presented.

Response to Remarks

Applicants submit that the current Office Action was not appropriately made. The Examiner fails to comply with a requirement set forth in MPEP §707.07(f) "Answer All Material Traversed", in which it is held that "[W]here the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it".

As seen from page 7 of the Office Action, the Examiner has failed to address each and every argument set forth in the prior response of Applicants (dated Jan. 12, 2006). Specifically, the Examiner has failed to address the legality of modifying Kawaguchi et al. (U.S. Patent No. 6,283,602B1) to replace the diverging lens 103 with a collimating one. It is not merely enough for a combination of references to provide for each and every feature claimed. It also must be legally obvious to

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modify the base reference in the proposed manner, no matter the content of any secondary reference or teaching. Applicants submit that the Examiner still has not met this legal obligation and has yet to establish a *prima facie* case for obviousness under 35 USC §103(a) with respect to the present Office Action.

Particularly, the Examiner has not addressed how collimating the light represents an improvement to the prior art device of Kawaguchi et al., given that the diverging lens 103 is employed expressly produce light divergence and thereby promote even lighting of the light guide plate 101. Based on MPEP §2143.01 and the related case law cited thereat, modifying Kawaguchi et al. (prior art device) to replace the diverging lenses with converging ones would not have been obvious because such a change would represent a change in the principle of operation of that device and would probably adversely affect the original intent of that device (i.e., it would likely render that prior art device unsatisfactory for its intended purpose). Applicant respectfully submits that such issues, as well as other arguments subsequently set forth in the present response, must be adequately addressed, or any obviousness rejection relying on Kawaguchi et al. as a base reference must be withdrawn.

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Claim Rejections - 35 USC §103

Claims 1-7 and 10-17 are rejected under 35 U.S.C 103(a) as being unpatentable over Kawaguchi et al US 6,283,602B1 (hereinafter Kawaguchi) in view of Ruda et al. US 5,745,519 (hereinafter Ruda).

In response to the rejection to claims 1-7 and 10-17 under 35 U.S.C 103(a) as being unpatentable over Kawaguchi et al in view of Ruda et al, Applicants respectfully traverse the rejection and submits that claims 1-7 and 10-17 are allowable in their present form.

Claim 1, as originally filed, recites in part:

... a micro-lens ... for collimating divergent rays emitted from the point light source into parallel rays ...

Applicants submit that such a surface lighting device as set forth in claim 1 is neither taught, disclosed, nor suggested by Kawaguchi, Ruda, or any of the other cited references, taken alone or in combination.

Applicants acknowledge that Kawaguchi discloses a lighting device including a light guide 101, a point light source 102, and lenses 103. As admitted by the Examiner, Kawaguchi does not disclose that "the micro-lens (or lens) collimating divergent rays (or light beams) emitted

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from the point-light source into parallel rays (or rendered into non-divergent rays)" (Page 3 of the instant Office Action). Therefore, the Examiner cites Ruda as a second reference to modify Kawaguchi in an attempt to render the present surface lighting device, as set forth in claims 1-7 and 10-17, obvious.

However, Kawaguchi points out a shortcoming of the structure shown in FIG. 10 that is cited as the primary reference for this 103 rejection by the Examiner as "[A] sufficient luminance level of light can be obtained in the areas A, but **not in the portions outside the areas A**" and "[As] a result, the overall light emitting surface 101b cannot emit light with a uniform luminance level" (Column 1, lines 37-40; Emphasis added). When modified by Ruda, Kawaguchi has its diverging lenses 103 replaced by a superconic lens 26 taught by Ruda. Ruda teaches that "[The] superconic lens is used for focusing light emitted by a laser diode" in FIG. 2, and, in describing that lens, Ruda discloses "a cross section of a microlens having a **plano-conic cross section**" (Column 2, lines 33-34; Emphasis added). Applicants submit that such superconic lenses 26 are actually lens bars "having **superconic profile** in accordance with the **principles of this invention (Ruda)**" (Column 1, lines 43; Emphasis

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added). Ruda further teaches "the lens typically has optical power (focusing power) only in this axis (fast axis)" (Column 2, lines 62 and 63).

Therefore, when modified to have such a lens bar in the place of the lens 103 of Kawaguchi, the point-source lights 102 are collimated in a direction perpendicular to the lens bar and remain unchanged in shape in a direction along the lens bar. Since the only way that the lens bar can be set therein is along with and corresponding to the incident surface 101a of the light guide 101, observing from the top of the light guide 101, the lens bar neither converges nor diverges the point-source light. As such, the shortcoming of the modified structure likely becomes even worse than the original. That is, the area in which the light emitted from the point-source lights 102 can be guided is restricted to angular areas narrower than those predetermined angular areas A. As such, if the references could even be combined, the overall light emitting surface 101b would emit light with even a less uniform luminance level. Accordingly, Applicants submit that it would not have been obvious to modify Kawaguchi with Ruda to arrive at the subject matter of claim 1.

Therefore, modifying Kawaguchi with Ruda would not have

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furthered the intended purpose of the prior art device (to provide a light device in which the light having a uniform luminance level can emit from the overall planar light emitting surface of a light guide when the light is applied to the light guide from point-source lights) (Emphasis added). In fact, such a modification would likely have rendered that prior art device unsatisfactory for its intended purpose (MPEP §2143.01).

Moreover, Kawaguchi teaches using lenses 103 that are divergent in order to produce larger areas A. Applicants submit that Kawaguchi, if anything, teaches away from being modified to have convergent or collimating lenses in place of the lenses 103, because the convergent lenses would inevitably narrow the areas A. It has been held that the prior art must be considered in its entirety, including disclosures that teach away from the claims, as provided in MPEP §2141.02 and the related case law provided thereat.

Additionally, the proposed modification renders Kawaguchi unsatisfactory for its intended purpose because it causes a less uniform luminance level. It is held that “the proposed modification cannot render the prior art unsatisfactory for its intended purpose” (MPEP §2143.01), thus Kawaguchi cannot be modified by Ruda to render the

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present surface light device to be *prima facie* obvious.

Furthermore, Kawaguchi discloses "a lighting device ... characterized in that a linear light guide is disposed between the point-source light and the planar light guide so as to convert the light from the point-source light into linear light and radiate the linear light to the planar light guide" (Column 1, lines 50-59), in accordance with its intended purpose for eliminating the shortcoming discussed above. One of ordinary skill in the art at the time the invention was made would not have been motivated to modify the prior art device of Kawaguchi to employ converging or collimating lenses instead. The proposed modification instead relies on impermissible hindsight of the Examiner, with the suggestion to arrive at the claimed invention being provided by the present application.

In a similar manner, claim 10 recites in part:

... the light beams emitted from the point light sources are rendered non-divergent by the micro-lenses and ...

Likewise, claim 15, as originally filed, recites in part:

... a lens ... for collimating divergent rays emitted from the

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point light source into non-divergent rays...

Applicant submits that such a surface lighting device as set forth in each of claims 10 and 15 is neither taught, disclosed, nor suggested by Kawaguchi, Ruda, or any of the other cited references, taken alone or in combination, for reasons similar to those set forth above with respect to claim 1. Therefore, the present liquid crystal display of claim 10 and the present surface lighting device of claims 1 and 15 should not be considered as being rendered obvious over Kawaguchi in view of Ruda.

Reconsideration and withdrawal of the rejection and allowance of claims 1, 10 and 15 are respectfully requested.

Claims 2-7, 11-14, 16 and 17 each respectively depends upon one of allowable claims 1, 10 and 15, and thus should also be allowable.

Claim 8 is rejected under 35 U.S.C 103(a) as being unpatentable over Kawaguchi and Ruda in view of US 6,533,440 (Koyama et al).

Applicants submit that claim 8 depends on allowable claim 1 and thus should also be allowable.

Claim 9 is rejected under 35 U.S.C 103(a) as being unpatentable

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over Kawaguchi and Ruda in view of JP 2002-93222.

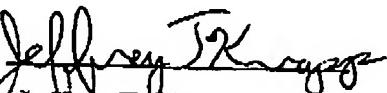
Applicants submit that claim 9 depends on allowable claim 1 and thus should also be allowable.

Finally, Applicants submit that any new grounds of rejection that might be presented in the next Office Action would not have been necessitated by the present Response. As such, Applicants submit that such an Office Action could not be made final, as per MPEP §706.07(a).

In view of the foregoing, Applicants submits that the present application is now in condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,

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